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# DRINKING PATTERNS OF UNIVERSITY STUDENTS OVER A SEVEN YEAR TIME PERIOD: THE EFFECT OF RAISING THE DRINKING AGE

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## ABSTRACT

The PURPOSE of this study was to examine drinking patterns and problems of a sample of college students from throughout the United States over three time periods to determine possible changes in patterns due to changes public policies. METHODS: Student were administered the *Student Alcohol Questionnaire* to students at the same 56 colleges that had participated in the study during 1982-3 (N=3145), 1984-5 (N=2797) and 1987-8 (N=3375). This highly reliable questionnaire ( $r=.79$ ) contains 6 items on drinking patterns, 17 items concerning possible problems resulting from drinking, and 36 questions on alcohol and its effects. RESULTS: The results comparing behaviors and problems over the three time periods revealed a significant decline of students who had consumed alcohol (84% in 1983; 83% in 1985 and 79% in 1987). Percent of students reporting the three drinking and driving related problems and vomiting had significantly decreased while getting into a fight after drinking had significantly increased ( $p < .05$ ). The other variables were stable. CONCLUSIONS: Although there were a few changes, these changes were already beginning to occur prior to any change in the drinking age laws on the national level.

## BACKGROUND

All states in the United States were required to have their alcohol purchase age as 21 years old by July 1987 if they wished to continue to receive federal highway funding. Since the mid 1970's, the drinking age in various states has been changed. Some states have lowered and then raised the purchase or legal drinking age laws and others have just raised them.

However, these law changes over the past decade have made little differences in the drinking patterns and problems of university students (Engs, 1977; Wechsler and McFadden, 1979; Engs and Hanson, 1985, Hanson and Engs, 1986; Berkowitz and Perkins, 1987). This might be due to the fact that even though a state may have raised its purchase law, students will go to contiguous states with different drinking laws to purchase or drink alcoholic beverages. It has only been since July 1987 that all states were required to have similar laws. During the time period, up until the change in the purchase laws, the only major change in drinking patterns since the mid 1970's has been a continued decrease in drinking and driving related variables (Hanson and Engs, 1986).

Studies over the past decade have found few differences between the drinking patterns and problems of college students who were under, compared to those of legal drinking age. A national study by Engs and Hanson (1986) reported few difference in drinking patterns, and problems related to drinking, between students attending universities in states with over 21 compared to under 21 year old drinking laws. A study by Mason, et.al (1987) found that there were few differences between the drinking patterns and problems of university students after the drinking age was raised. Others have showed that individual problems of university students.

On the other hand, one recent study by Williams and Lillis (1988) has shown that among individuals under 21 years of age there was lower alcohol consumption after the increase in purchase age to 21 years of age in one state of the United States. An earlier study by Schroeder and Meyer (1983) indicated that raising the drinking age, in another state, had reduced the drinking related problem of fatal motor vehicle accidents among drivers under 20 years of age.

Due to the fact that much of the literature suggests little change has occurred over the decade in drinking patterns among university students, our hypotheses are that, prior to and after a change in the purchase age in the United States:

- 1) there will be no significant difference in drinking patterns and
- 2) there will be no significant difference in drinking problems of university students.

## METHODS

An anonymous precoded instrument was used which included demographic items, questions regarding the consumption of alcohol, and 18 items concerning possible consequences

of drinking. All question items had been used over the two previous time periods and the instructions explained the voluntary nature of participation as approved by the Indiana University Human Subjects Committee. The questionnaire, The Student Alcohol Questionnaire was administered to students at 82 universities which had participated in the 1983 and 1985 surveys. These represent four year college and universities in all states. The sample of over 4000 thousand students was drawn from in-class administration in survey-type sociology, health or physical education courses. These classes had a high probability of containing students from every academic major and class year. The response rate exceeded 98% and the demographic composition of the resulting sample closely approximated that of students attending baccalaureate institutions of higher learning in the United- States.

## RESULTS

The results indicate a significant ( $p < .001$ ) decrease in the percent of students who drink at least once a year (84% in 1983; 83%, 1985 and 79%, 1987). This decrease occurred from 1985 until 1988, the dates which correspond to the time period prior to and immediately after the change in the purchase laws. There was no significant change in the percent of students who drank at least one a year between the 1983 and 1985. Among those students who drink, there was been no change in the percent of heavy drinkers (25% of the sample in all three time periods).

There was a significant decrease ( $p < .001$ ) in the percent of students who drank wine, spirits, and beer at least once a month. There was also a significant decrease ( $p < .001$ ) in the percent of students who drank five or more glasses of wine between the 1985 and 1987 time periods. All these changes occurred between the 1985-1987 time period, which was prior to and immediately after the increase in purchase age law.

Of the 18 problems related to drinking, a significant ( $p < .001$ ) decrease in the percent of students who stated they "drank while driving a car" (47%, 42%, 37%), had "driven a car after drinking"(60%, 55%, 49%) and "driven after they knew they had too much to drink"(40%, 38%, 34%) in 1987, 1985 and 1982 respectively. These decreases occurred over the three time periods. There was a significant change ( $p < .001$ ) in the percent of students who indicated they had vomited over the past year due to drinking. In 1982 44%; in 1985, 46%; and in 1977, 37% indicated they had vomited. The decrease in vomiting occurred between the 1985 and 1987 time period.

## DISCUSSION

Both hypotheses were only partly supported. These results appear to suggest that there has been a decline in the percent of students who indicate they have drunk an alcoholic beverage at least once during the preceding 12 months. These changes have occurred since the institution of the 21 year old purchase laws which does not support the first hypothesis which states there would be no changes in the drinking patterns of university students prior to and after the change in the purchase law. These results imply that increasing nationwide the purchase law decreases the percent of students who drink once a year or more. However, there was no change in the

percent who were heavy drinkers, the ones most likely to get into problems with drinking. This lack of change supports the first hypothesis.

For 13 of the 18 problems related to drinking, there was no changes over the three time periods. In fact the percent of students who indicated these problems appears remarkably stable between both the time periods prior to (1983-1985), and the one immediately prior to (1985-1987) after the change in purchase law. This supports the second hypotheses that there would be no change in drinking problems related to drinking prior to and after the change in the drinking age laws for these items.

It appears that the change in the purchase laws may have affected those students who rarely drank, and if they did drink were unlikely to be heavy drinkers or get into problems related to drinking.

There was a decrease in the percent of students who indicated they have "drank while driving", "driven after drinking", "driven after they knew they had drunk too much" from 1982 to 1985 and from 1985 to 1987. Examination of the three drinking and driving related variables, which did change between 1985 and 1987 (the years of concern for review of the potential impact of drinking age laws), we find that this change was also found in the 1983-85 time period. In other words, it may not be appropriate to link the 1985-87 changes with these three items with the change in drinking age laws; these 1985-87 changes may, in fact, simply be a continuation of earlier changes (as demonstrated with the 1983-85 changes). However, for the frequency of consuming alcoholic beverages, and the percent of students who indicated they had vomited after drinking, the decrease or the dip appeared to have come after the change in the drinking law.

## SUMMARY

Overall, there appears to be some changes in drinking patterns after the change in the drinking purchase laws among this national sample of university students. However, with the drinking related problems, although there are changes in a few items, these changes were already beginning to occur prior to any change in the drinking age laws on the national level. These results suggest that there may be few decreases in exhibited problems related to drinking.

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**Table 1. Student drinking patterns in percent during previous year**

<i>Drinking pattern</i>	<i>1983</i> ( <i>N=3,145</i> )	<i>1985</i> ( <i>N=2,797</i> )	<i>1987</i> ( <i>N=3,375</i> )
Abstainer <sup>1</sup>	16.2	17.3	21.2*
Infrequent drinker <sup>2</sup>	8.2	8.3	10.2
Light drinker <sup>3</sup>	12.0	11.7	10.2
Moderate drinker <sup>4</sup>	18.7	18.6	17.9
Moderate/heavy drinker <sup>5</sup>	24.0	23.3	20.1
Heavy drinker <sup>6</sup>	20.9	20.8	20.4

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\* P < .001

1 Drinks less than once a year or not at all.

2 Drinks more than once a year but less than once a month.

3 Drinks at least once a month but not more than 1 to 3 drinks at any 1 sitting.

4 Drinks at least once a month with no more than 3 to 4 drinks, or at least once a week with no more than 2 to 4 drinks, at any 1 sitting.

5 Drinks 3 to 4 drinks at least once a week or 5 or more drinks at least once a month.

6 Drinks 6 or more drinks at any 1 sitting more than once a week.

**Table 2. Percentage of drinkers who experienced drinking problems during the previous year**

<i>Drinking problem</i>	<i>1983</i> ( <i>N=2,637</i> )	<i>1985</i> ( <i>N=2,313</i> )	<i>1987</i> ( <i>N=2,657</i> )
Had a hangover	72.5	73.8	75.7
Vomited as a result of drinking	44.2	46.4	37.1*
Driven a car after having had several drinks	40.4	38.0	34.0*
Driven a car when they knew they had drunk too much	59.8	55.3	49.2*
Driven a car while drinking	47.4	42.5	37.3*
Came to class after having several drinks	9.0	8.6	8.4

"Cut a class" after having several drinks	9.3	10.8	9.1
Missed a class because of a hangover	23.5	27.6	26.5
Been arrested for driving while intoxicated	1.6	1.1	1.6
Been criticized by someone they were dating because of their drinking	11.5	10.7	13.4
Had trouble with the law because of drinking	4.9	3.7	6.2
Lost a job because of drinking	0.3	0.3	1.0
Gotten a lower grade because of drinking too much	4.4	5.8	5.4
Gotten into trouble with school administration because of behavior resulting from drinking too much	2.0	1.8	2.9
Gotten into a fight after drinking	11.1	12.4	14.7*
Thought they might have a problem with their drinking	9.2	8.1	9.9
Damaged property, pulled a false fire alarm, or other such behavior after drinking	9.4	9.4	11.3

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\* P < .001